

bushy, branched, cylindric, bottle-brush paraphyses about $4\frac{1}{2}$ μ in diameter over prongs, uniformly clothed for their length with such lateral outgrowths which are disorganized and dissolved by KHO solution but not affected by dilute hydrochloric acid nor lactic acid, and (2) deeply staining, cylindric organs usually $4\frac{1}{2}$ – 5 μ in diameter, sometimes clavate and then up to 9 μ in diameter; spores hyaline, even, 12 – 15×9 – 12 μ .

Fructifications 1 – $1\frac{1}{2}$ cm. broad, 7 cm. long, and broken at both ends.

On small dead twigs of frondose wood. Cuba. March.

This species may be recognized at the time of collection by its snow-white color, very thin fructification which resembles a thin *Corticium*, and occurrence along one side of small dead twigs of frondose species; the small, even spores and bushy paraphyses whose bottle-brush outer surface is disorganized by treatment of preparation with KHO solution afford good distinctive microscopical characters. Mature basidia, when found, may show that this species belongs in *Sebacina* rather than in *Aleurodiscus*—a view which seems the more probable because of the peculiar effect of KHO solution upon the paraphyses.

Specimens examined:

Cuba: *C. G. Lloyd*, 421, 422, type (in Mo. Bot. Gard. Herb., 55178, 55179 respectively).

13. *A. penicillatus* Burt, n. sp.

Type: in Burt Herb.

Fructification resupinate, effused, adnate, cracking in drying, pale ochraceous-buff at first, becoming between light buff and pinkish buff in the herbarium, the margin determinate; in structure about 200 μ thick, composed of loosely interwoven, suberect, hyaline hyphae 3 μ in diameter, occasionally nodose-septate, not incrusted; hymenium composed of large, clavate basidia about 75×18 μ , with large sterigmata, and of flexuous paraphyses about 6 μ in diameter, of several forms, of which the most noteworthy have about the obtuse apex a cluster of about 12 acicular branches, each about 4 μ long; spores hya-

line, minutely echinulate, subglobose, 15–18 μ , or rarely 20 μ , in diameter.

Fructifications at first about 2–3 mm. in diameter, then laterally confluent into patches up to 10 cm. long and 2 cm. broad.

On stem and twigs of dead standing seedling of *Pseudotsuga taxifolia* and on limbs of *Tsuga heterophylla* on the ground. Idaho, Washington, and Oregon. September and October. Rare.

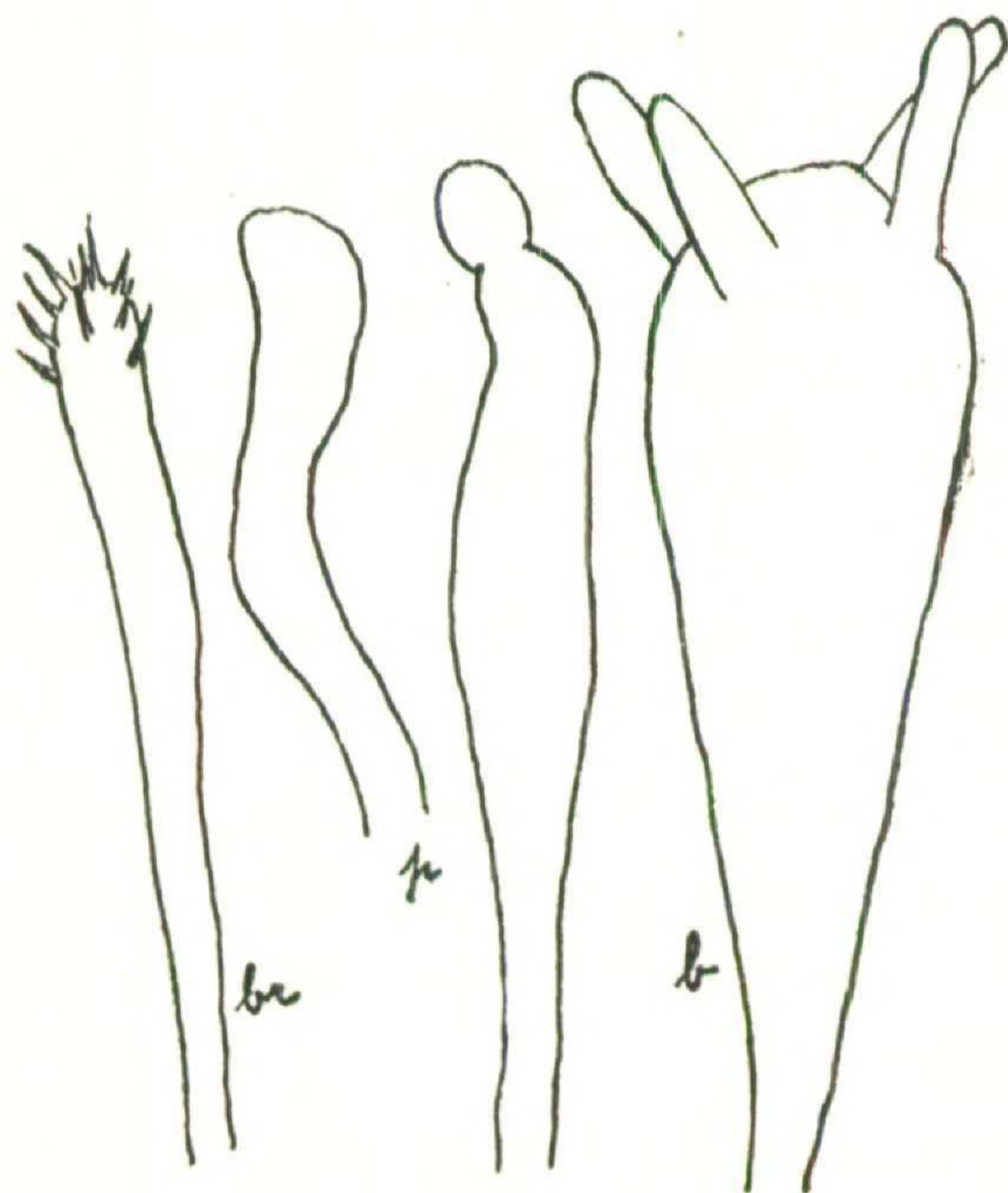


Fig. 13

A. penicillatus.

Brush paraphyses, *br*; other paraphyses, *p*; basidium *b*. $\times 870$.

This species is so thin and widely effused that it is likely to be regarded as a *Corticium* until examined with a microscope. If sought for especially it could probably be recognized when collected by its buff color and occurrence upon western

Tsuga and *Pseudotsuga*. The minutely echinulate, globose spores, brush-shaped paraphyses occurring between ordinary flexuous paraphyses, and the thin fructification wholly destitute of crystalline and granular matter are a good combination of characters separating *A. penicillatus* from other resupinate species.

Specimens examined:

Idaho: Priest River, *J. R. Weir*, 109, 129 (in Mo. Bot. Gard. Herb., 10811 and 12721).

Washington: Hoquiam, *C. J. Humphrey*, 6384; Sequim, *J. M. Grant*, comm. by Mrs. F. W. Patterson (in Mo. Bot. Gard. Herb., 8936).

Oregon: Eugene, *C. J. Humphrey*, 6084, type.

14. *A. Weirii* Burt, n. sp.

Type: in Burt Herb.

Fructification resupinate, broadly effused, adnate, glabrous, becoming cracked into small polygonal masses, drying cartridge-buff, the margin thinning out; in structure 200–900 μ

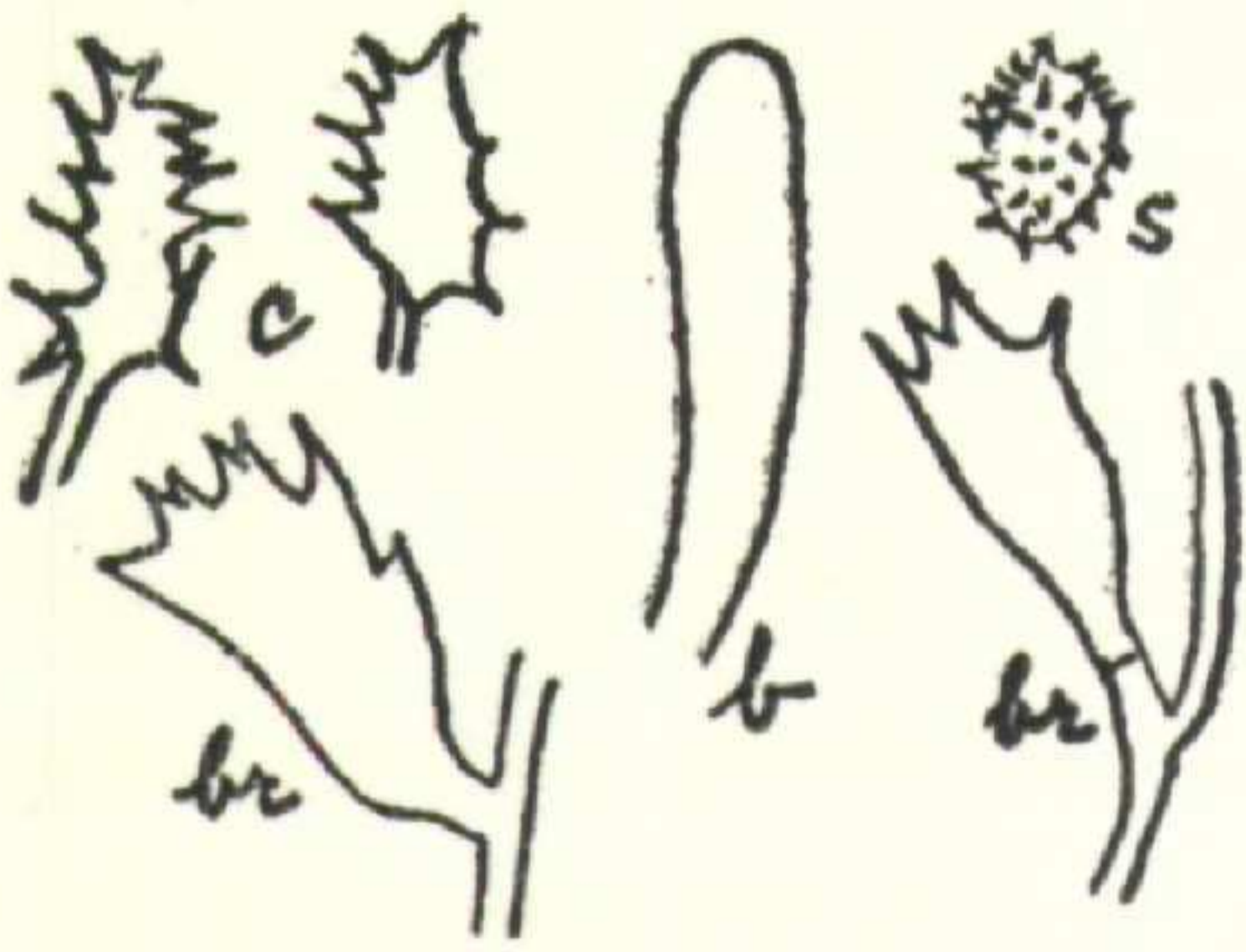


Fig. 14

A. Weirii.

Cockroach-shaped paraphyses, *c*; somewhat similar hyphal branches from interior of section, *br*; immature basidium, *b*; spore, *s*. $\times 870$.

thick, composed of thin-walled, irregular, hyaline hyphae 2 μ in diameter, which bear laterally here and there short, erect branches with ovoid body $15 \times 4-4\frac{1}{2}$ μ , from which radiate 6–12 prongs, each 4–4 $\frac{1}{2}$ μ long, and constitute the paraphyses at surface of the hymenium; basidia with sterigmata not found; spores hyaline, minutely echinulate, subglobose, $6 \times 5-6$ μ in one specimen, $10-12 \times 9-10\frac{1}{2}$ μ in another.

Fructification 1–3 cm. long, 1–2 cm. broad on bark; 8–10 cm. long, 2–3 cm. broad on decorticated wood—broken off at one end and along one side in the latter specimens.

On rotting wood of *Abies grandis* and *Thuja plicata* and on bark of *Larix occidentalis*. Idaho and British Columbia. August and September.

A. Weirii has the aspect of a widely effused *Corticium*, but it is distinguished from any *Corticium* of similar aspect by the minutely echinulate spores; the cockroach-shaped paraphyses distinguish this species from other species of *Aleurodiscus*.

Specimens examined:

Idaho: Priest River, *J. R. Weir*, 70, type, and 389 (the latter in Mo. Bot. Gard. Herb., 12249).

British Columbia: Kootenai Mts., near Salmo, *J. R. Weir*, 459, 490 (in Mo. Bot. Gard. Herb., 8768 and 21980 respectively).

(To be continued.)

A NEW SELAGINELLA FROM MEXICO

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In a collection of plants made in southern Mexico in 1908 by Dr. W. J. G. Land and the late Professor Charles R. Barnes was a *Selaginella* which it was impossible at that time to determine with any degree of certainty. Subsequently additional material was obtained and a further attempt was made to identify the plant with some known species, but again without success. Material was then sent to Professor Georg Hieronymus, of Berlin, whose extended studies of the genus had given him a comprehensive knowledge of the entire group. Professor Hieronymus stated that the plant did not correspond to anything in the Royal Herbarium of Berlin, and that it undoubtedly represented a species new to science. The authors take pleasure in dedicating this well-marked species to Professor W. J. G. Land, of the University of Chicago, and present herewith a description and illustrations as follows:

Selaginella Landii Greenman & Pfeiffer, sp. nov.

Herba cespitosa perennis 3-6 cm. vel ultra longa; caule ramibusque prostratis apicibus aliquanto adscendentibus foliosissimis remote radicanibus; foliis crebre pluri-seriatis sub ima parte caulis plus minusve adpressis sed maximam partem adscendentibus vel erectis ovato-lanceolatis vel triangulato-ovatis 1-2.5 mm. longis 0.5-1 mm. latis acuminatis vel acutis ciliatis utrinque glabris supra planis subtus parum convexis et in sicco fere usque ad apicem secus lineam tenuiter sulcatis; spicis (strobilibus) terminalibus 0.5-1 cm. longis erectis vel suberectis tetragonis circiter 1.5 mm. diametro; sporophyllis late ovatis cordatis foliis paulo brevioribus; microsporis parce brevi-spinulosis vel papillosis auranteo-luteis circiter 46 μ in majore diametro; megasporis

citro-luteis circiter 330 μ in diametro cum costis plus minusve anastomosis obtectis.

A caespitose perennial herb, 3 to 6 cm. or more long; stem and branches prostrate or somewhat ascending at the tips, leafy, remotely rooting; leaves crowded, several-seriate, on the under side of the stem more or less appressed but for the most part ascending or erect, ovate-lanceolate to triangular-ovate, 1 to 2.5 mm. long, 0.5 to 1 mm. broad, acuminate or acute, ciliate, glabrous on both surfaces, flat above, slightly convex beneath and in the dried state narrowly channelled from the base almost to the apex; spikes (strobiles) terminal, 0.5 to 1 cm. long, erect or nearly so, tetragonal, about 1.5 mm. in diameter; sporophylls broadly ovate, cordate, a little shorter than the leaves; microspores sparingly short-spinulose or papillose, orange-yellow, about 46 μ in the greater diameter; megaspores lemon-yellow, about 330 μ in diameter, covered with more or less anastomosing ridges.—Mexico: in dense mats on large rounded granite boulders, San Esteban Mountains, about 32 kilometers from Guadalajara, State of Jalisco, coll. of 1908, *Barnes & Land 2024* (Mo. Bot. Gard. Herb.), TYPE.

This species is related to *Selaginella rupestris* (L.) Spring from which it differs markedly in several characters, notably in having upturned or subsecund and spreading instead of appressed-imbricated leaves and in the absence of bristle-tips at the leaf-apex. In a synoptical treatment of the several species now recognized as belonging to the *S. rupestris* group, *S. Landii* would stand next to *S. Watsoni* Underwood, from which it is readily separated by the ascending or erect leaves on the upper side of the stem, by the absence of an awn at the leaf-apex, and by the smaller megaspores.

EXPLANATION OF PLATE

PLATE 11

Selaginella Landii Greenman & Pfeiffer

Mexico

From the type specimen, Barnes & Land No. 2024, in the Herbarium of the Missouri Botanical Garden. Habit of plant; natural size.